

The Availability of and Demand for Sanitary Sewage Handling Facilities on New Jersey's Coastal Waters

Addendum

and

Recommendations

New Jersey Department of Environmental Protection
Division of Coastal Resources

4/89

This report is an addendum to "The Availability of and Demand For Sanitary Sewage Handling Facilities on New Jersey's Coastal Waters" which was submitted by the Department of Environmental Protection to the Governor and Legislature in January 1989. The January report was required by the Marine Sewage treatment Act (P.L.1988 c.117). A second requirement of that legislation directed the Department to adopt any necessary regulations to implement the Act, and make recommendations to the New Jersey Legislature for any other needed legislation. This addendum presents a draft of the regulations the Department will now consider as well as a proposed set of legislative amendments.

III SUPPLY OF PUMPOUTS IN NEW JERSEY ADDENDUM

Section III of the initial supply and demand study recommended that successful Waterfront Development permittees be surveyed to ascertain the status of their marina developments and to determine whether required pumpout facilities are in operation. The Department surveyed 37 marinas by letter, of which 21 responded as represented below.

Pumpout in Operation	3			
Pumpout will be installed for 1989	3			
Contest the requirement	4			
Cannot comply (sewer ban)	1			
Permit under appeal				
Marina not constructed	9			
No Response	16			

4 1.7

Of the four marinas which contest the requirements for a pumpout facility, two have previously received notices of violation. Also notable, two of the nine marinas not yet constructed have indicated that pumpout facilities may be on-line before the end of the 1989 boating season.

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Adding these new pumpouts to those already in operation yields a total of 29 private marinas providing pumpout facilities at the start of the 1989 boating season. In addition, five public marinas are also anticipated to have pumpout facilities in operation in the very near future. Attached is a list of all marinas in New Jersey which provide pumpout facilities for 1989.

Marinas Providing Pumpout Facilities

Arcorp Properties
Pershing Road
Weehawkin, NJ 07887
Hudson River

Newport City 2 Sixth Street Jersey City, NJ 07302 Hudson River

Liberty Harbor Marina 100 Marin Boulevard Jersey City, NJ 07302 Morris Canal Basin

Cateway Marina 5 Port Monmouth Road Port Monmouth, NJ 07758 Pews Creek

Leonardo State Marina 2 Concord Avenue Leonardo, NJ 07737 Lagoon of Raritan Bay

Skipper's Landing
52 Shrewsbury Avenue
Highlands, NJ 07732
Shrewsbury River

Red Bank Municipal Basin Wharf Avenue, Marine Park Red Bank, NJ 07701

Seaview Marina Condo Assn. Sea Spray Lane & Rte. 35 Neptune, NJ Shark River

Belmar Marine Basin Rte. 35 & Mraina Avenue Belmar, NJ 07719 Shark River Brielle Yacht Club 201 Union Lane Brielle, NJ Manasquan River

Bay Point Harbor (Johnson Bros.) Bay Avenue Pt. Pleasant, NJ 08742 Barnegat Bay

Winter's Yacht Basin 5 Mantoloking Road W. Mantoloking, NJ 08738 Barnegat Bay

Ocean Beach Marina 3245 Route 35 Lavallette, NJ 08735 Lagoon off Barnegat Bay

Arnolds Yacht Basin 1671 Beaverdam Road Pt. Pleasant, NJ 08742 Beaver Dam Creek

Wehrlen Brothers Marina 197 Princeton Avenue Bricktown, NJ 08723 Metedeconk River

Masthead Marina Rt. 70 & Metedeconk Rd. Bricktown, NJ 08723 Metedeconk River

Holiday Harbor Marina 73 Tiller Drive Waretown, NJ 08758 Lagoon off Barnegat Bay

Dillon's Creek Marina 16 River Bend Drive Toms River, NJ 08753 Dillon's Creek & Toms River Riverbank Marina 1 Corrigan Avenue Bayville, NJ 08721 Toms River

Stump Creek Shipways 207 Chelsea Avenue Bayville, NJ 08721 Mill Creek off Toms River

Shore Marine
Marine Road & Bay Point
Waretown, NJ 08758
Lagoon off Barnegat Bay

Forked River State Marina 311 South Main Forked River, NJ 08731 North Branch Forked River

Shelter Harbor Marina 317 11th Street Beach Haven, NJ 08008 Little Egg Harbor

The Harbour at Harrah's 1725 Brigantine Blvd. Atlantic City, NJ 08401 Absecon Channel

Senator Frank S. Farley
State Marina
600 Huron Avenue
Atlantic City, NJ 08401
Clam Creek

Mariner's Cove Marina P.O. Box 137 Northfield, NJ 08225 Dock Thorofare

Bay Club Marina Amhurst Avenue Margate, NJ Beach Thorofare Harbour Cove Marina Bay Avenue Somers Point, NJ 08244 Ships Channel

All Seasons Marina 34th Street at Bridge W. Ocean City, NJ 08223 Peck Bay

Harvey's Port of Call 10th & Ocean Drive Avalon, NJ Cornell Harbor

Spring Garden Marina Spring Garden Road Port Elizabeth, NJ 08332 Maurice River

Fortescue State Marina Fortescue, NJ 08321 Fortescue Creek

Riverside Marina Norman Avenue Riverside, NJ 08075 Dředge Harbor

Winter's Yacht Basin Reserve Avenue Riverside, NJ 08075 Dredge Harbor

V CONCLUSION ADDENDUM

Under Section 312 of the federal Clean Water Act, the U.S. Environmental Protection Agency must find that adequate facilities exist for the removal and treatment of sanitary wastes from vessels prior to approving an application for "no discharge". Since adequate pumpout facilities do not exist currently, the Department has decided to postpone a petition to the U.S. Environmental Protection Agency for "no discharge" designations until after the recommended regulations implementing P.L. 1988 c.117 become effective. At that time the Department will consider applying for a "no discharge" mandate for all estuarine waters under the State's jurisdiction.

VII Recommendations

The Department's Division of Coastal Resources has explored the marine sewage disposal options employed by other states, as well as suggestions generated in consultation with the New Jersey Marine Trades Association and the New Jersey Sea Grant Program; and proposes two recommended actions. The first action is that the Department of Environmental Protection propose new regulations to advance the purposes of the Act. The second is that the Legislature consider amendments to P.L. 1988 c.117 which would enhance implementation of the regulations

Draft Proposed Regulations

The draft proposed language for regulations has been attached for your consideration. Briefly, the proposed rules are intended to accomplish the following tasks.

1) Require pumpout facilities at all new marinas; and at all existing marinas of 50 or more slips with certain exceptions allowable.

A marina developer has a responsibility to help preserve the quality of his immediate environment. Therefore, in order to protect the quality of coastal waters in and around any new marina, the Department shall continue to require the installation of pumpout facilities. Certain exceptions may be made on a case-by-case basis where either the marina could not berth an MSD equipped vessel due to slip size or where sufficient pumpout availability is demonstrated.

Recognizing that this mechanism for achieving pumpout placement is both reactive and unpredictable, other options were investigated to augment this approach. Two of the options suggested in the Department's original report were abandoned. The first, requiring pumpout facilities at every marina providing dockage to an MSD equipped vessel was aborted, because a great deal of facility duplication would have resulted and enforcement would be problematic. The second alternative, requiring pumpout facilities at marinas with fuel docks, was eliminated because no parallel could be drawn between fuel docks and the discharge of sewage into the water. Marina size, however, is associated with the quantity of sewage generated on the water.

The locations of all New Jersey marinas consisting of 100 or more slips were plotted and their spacial distribution contrasted with the locations of all marinas of 50 or more slips. Based on this comparison, the more complete coverage offered by marinas of 50 or more slips led to their selection as targets for retrofitting with pumpout facilities. However, the greater number of marinas having 50 or more slips also results in more duplication in areas where marinas are concentrated. To eliminate some unnecessary pumpouts, the Department suggests allowing marinas in close proximity to share facilities. Such arrangements would be monitored by the Department to ensure that an adequate number of facilities would continue to be supplied.

The number of facilities to be provided under this approach has been tabulated and compared with estimated numbers of MSD equipped vessels in the following table. The estimates of MSD equipped vessels were calculated assuming a directly proportional relationship as follows:

Waterways	No. of slips at marinas	Estimate No. of vessels total	Estimate No. of vessels w/MSD	No. of existing & req'd pumpouts	No. of 50 slip marinas	Total No. of pumpouts needed	Total Additional No. of pumpouts @ marinas
Hudson River	1105	5083	711	6	2	4	0
Arthur Kill & Newark Bay	630	2898	406	2	3	4	2
Raritan River	63	290	41	1	0	1	0
Raritan Bay	1581	7273	1018	2	11	6	4
Sandy Hook Bay	1306	6008	841	4	6	5	1
Shrewsbury River	849	3905	547	4	10	8	4
Navesink River	763	3510	491	9	5	4	1
Shark River	732	3367	471	2	4	3	1
Manasquan River	2026	9320	1305	5	12	7	3
Upper Barnegat	1123	5166	723	5	13	9	6
Metedeconk River	2191	10079	1411	4	10	8	4
Central Barnegat	3013	13860	1940	6	20	10	4
Toms River	798	3671	514	5	5	5	2
Lower Barnegat & Forked River	1827	8404	1177	2	15	7	5
Little Egg Harbor & Tuckerton Creek	2925	13455	1884	8	24	11	5
Great Bay & Mullica River	1211	5571	780	3	8	6	4
Absecon Bay & Lakes Bay	1912 -	8795	1231	9	11	12	3
Great Egg Harbor	1926	8860	1240	6	13	7	3
Ludlam Bay	413	1900	266	1	4	3	3
Townsends Inlet & Herefords Inlet	1256	5778	809	5	10	10	5
Cape May Harbor	1347	6196	867	1	7	5	4
Bidwells Creek	_	_	_	1	1	1	0

Waterways	No. of slips at marinas	Estimate No. of vessels total	Estimate No. of vessels w/MSD	No. of existing & req'd pumpouts	No. of 50 slip marinas	Total No. of pumpouts needed	Total Additional No. of pumpouts @ marinas
Maurice River	796	3661	513	3	7	3	1
Fortesque Creek	125	575	80	1	1	1	0
Nantuxent Creek	70	322	45	0	1	1	1
Back Creek	100	460	64	0	1	1	1
Cohansey River	372	1711	240	0	2	2	2
Salem River	170	782	109	0	2	1	1
Lower Delaware	115	529	74	0	1	1	1
Middle Delaware	1423	6546	916	2	7	5	3
Upper Delaware	100	460	64	1	2	1	0
Totals	32268	148439	20778	98	218	152	74

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$$\frac{\text{TSS}}{\text{TVR}} = \frac{32,268}{150,125} = \frac{1}{4.6}$$

$$\overline{TSS} = \overline{TSW}$$
 therefore $\overline{TSW} = \underline{1}$
 \overline{TVR} \overline{TVW} $\overline{4.6}$

 $TVW = TSW \times 4.6$

TMSD = TVW X .14

where TSS = total slips at marinas statewide

TVR = total vessels registered statewide

TSW = total slips at marinas on a waterway

TVW = total vessels registered on a waterway

TMSD = total MSD equipped vessels on a waterway

.14 = estimated percentage of registered vessels equipped
 with an MSD (from report)

Two criteria have been used to assess the number of pumpouts needed to satisfy demand. The first derives from the U.S. EPA general requirement of one pumpout facility per 200 MSD-equipped vessels. The second criterion addresses the convenience of location with respect to a vessel's home port.

The draft proposed regulations require marinas, located more than one half mile from the nearest operational pumpout facility, to provide their own facilities. In theory, this would ensure the maximum round trip from a marina to a pumpout facility will be one mile. Extending this travel

distance will increase the attractiveness of overboard discharge. While the half mile distance is arbitrary, it is reasonable.

Using these two criteria and acknowledging the 50 or more slip marina target definition for pumpout placement, 152 pumpout facilities would be required statewide to meet the estimated demand at convenient intervals on New Jersey's coastal waters.

Assuming all 98 pumpout units required or existing are in fact operational, 74 additional facilities would be needed at private marinas. The discrepancy between the 152 unit projection above and these figures owes to required or existing facilities located within one half mile of each other (duplication).

The 74 private facilities estimate is a best scenario figure since it assumes all required facilities will be on-line and that all other marina operators are able to work in harmony and achieve the least duplication of facilities. A worst case scenario assumes none of the required facilities are on-line and that all marinas of 50 or more slips fail to reach agreements, yielding a need for 218 pumpout facilities at private marinas.

An intermediate assumption would acknowledge the 29 pumpout units which currently exist and expect that, given state funding under Section 6 of the proposed regulations, all marinas could come to terms. Under this scenario, 123 pumpout units would need to be provided at private marinas. This figure represents the basis for the appropriation requested under the proposed amendment to P.L. 1988 c.117.

2) Require portable toilet emptying receptacles at all marinas statewide with exceptions allowed only where each slip is inseparably related to an adjacent residence.

As discussed in the initial report, convenience is probably the paramount consideration when planning for proper disposal of portable toilet wastes. The widespread use of portable toilets makes the widespread availability of disposal areas necessary to a successful reduction in the practice of overboard discharge. Since the Department is requiring only a dedicated location for portable toilet waste, and not special equipment, it should be feasible for every marina to accommodate this regulation.

3) Require dockside restroom facilities at all new or improved marinas.

While this requirement is apparently outside of the scope of P.L. 1988 c.117, there exists a logical nexus between on-shore restrooms and the reduction of sewage generated on the water. A requirement for restrooms at new marinas has been often suggested by the Department, but never officially mandated in an administrative code. Since major renovations to marinas allow a continuation of operations which affect water quality this regulation should apply to rehabilitation projects as well.

The severity of the economic impact on the marina owner is effectively reduced by phased implementation; applying to existing marinas only when a major rehabilitation or renovation is applied for. This will allow marina

owners the opportunity to plan for this future expense as they do the costs of maintenance dredging and dock or bulkhead replacements.

4) Require slip-side pumpout facilities at any live-aboard marina violating surface water quality standards for human waste.

Due to the expensive nature of slip-side pumpout systems, the Department proposes to require marinas to be immediately retrofitted with these systems only where a water quality problem due to overboard discharge is documented. In addition to solving water quality problems emanating from live-aboard marinas, this stipulation provides incentive for marina owners to ensure that patrons are not discharging their waste overboard.

5) Require all new marinas which provide live-aboard accommodations to also provide slip-side pumpout service.

Many marinas provide services such as potable water, electric and even cable television to individual slips, which make living on-board a vessel possible. Conversely, few marinas, if any, provide sewer service to these same slips. These slips, used similar to vacation homes, should be equipped with proper sewage disposal systems to reduce the incidence of inadequately treated sewage being discharged.

Because of the expense associated with these systems, the Department suggests that these systems be planned coincidental to other major improvements. The important theme is that marinas which encourage residential use of their slips must also encourage proper sewage disposal.

6) Make grants available from the Department to fund the purchase and installation of pumpout facilities at existing marinas.

Several advantages will accrue from funding pumpout facilities. The most important benefits exude from a contractual agreement with the marina owner. Currently, the authority of the Department to regulate pumpout accessibility is questionable and the ability to limit fees imposed on users, nonexistent. As noted in the initial report, the use of a given facility is expected to vary inversely with the cost. Likewise, not all MSD equipped vessels are berthed at marinas; therefore, availability to non-marina vessels is essential. By subsidizing the purchase of pumpout units, the Department could require that the facility be available to the general boating public, at a reasonable fee.

The reimbursable cost for pumpout installation was established at \$10,000 per unit under the assumption that this should provide adequate compensation for all but the few systems where a new subsurface disposal system or a sizeable holding tank are necessary. Priority criteria to guide the distribution of funds have been included in Section 6b. of the proposed regulations.

Recommended Legislative Action

To effectuate the funding of pumpout facilities and to offset the costs of a public education campaign, an amendment to the Marine Sewage Treatment Act, (P.L. 1988 c.117) appropriating \$1,200,000 to the Department is necessary. This figure was established by multiplying the \$10,000 maximum

allowable grant by the estimated number of existing private marinas requiring retrofitting under the proposed regulations (see discussion at Recommendation 1). In the event that funding requests exceed the appropriation, priority criteria will be used to establish preferences for funding. Proposed language for such an amendment has been attached for consideration by the legislature.

In the absence of general revenue for this endeavor, an innovative mechanism for funding pumpout facilities involves recovering fuel tax revenue generated by marine fuel sales from the Department of Transportation and the general treasury.

Gasoline purchased for recreational boating are taxed at a rate equivalent to those utilized in automobiles. Motor boats, however, do not place any demand on the services provided by the DOT. Redirecting the 2.5 cent Highway Safety Fund contribution from marine fuel sales into a program to enhance recreational boating seems appropriate.

Maine, Michigan, Minnesota, Oregon, and Ohio have enacted similar programs dedicating that portion of fuel tax proceeds generated by the boating public to the improvement of recreational boating opportunities. Estimates of fuel consumed by boating range from .5% to 2% of the total fuel sales in those states, generating from 1.3 to 7.5 million fuel tax dollars. Additional research is needed to accurately calculate the percentage of fuel consumption attributable to boating in New Jersey.

Dedicating the entire 10.5 cent fuel tax levied on .5% of the total New Jersey gasoline sales to a Recreational Boating Enhancement Fund would yield in excess of 1.8 million dollars for improving boating opportunities. Similarly, redirecting the 2.5 cent fuel tax contribution to the Highway Safety Fund on 2% of the total gasoline sales would result in 1.7 million dollars dedicated for enhancing recreational boating.

The tax revenue obligated under such a plan would be perennial and would be used to meet the immediate need of providing pumpout facilities. Future revenue would be expended to rehabilitate public boat launches, mark and maintain navigation channels, and rehabilitate bulkheads and docks at public boating facilities.

At this preliminary stage the Department has not taken the liberty of drafting proposed language for such an initiative, but is prepared to do so upon the direction of the legislature.

Public Education

Finally, as the Marine Sewage Treatment Act suggests in Section 3, success in reducing overboard discharges of sewage will rely heavily on public education. Attached is a prototype brochure which explains some of the "dos" and "don'ts" and "whys" and "why nots" of marine sewage disposal and which lists those marinas providing pumpout facilities. The Department would like to enlist the support of the Division of Motor Vehicles in disseminating this brochure to the boating public along with their boat registration renewal forms. Additional copies could be made available at

marinas statewide and through the New Jersey Sea Grant Program to further publicize pumpout availability.

This concludes the Department of Environmental Protection's recommendations for the implementation of a program to reduce the sewage effluent discharged from boats into New Jersey's coastal waters, as required by the Marine Sewage Treatment Act, P.L. 1988 c.117.

The Department welcomes comments and suggestions on this issue. Please direct them to:

New Jersey Department of Environmental Protection

Division of Coastal Resources

CN 401

Trenton, New Jersey 08625

ATTN: Lawrence J. Baier

Proposed Amendment to the Marine Sewage Treatment Act P.L. 1988 c.117 as required.

Proposed New Section 7

- 7.a The Department of Environmental Protection shall make available grant funding up to \$10,000 per marina for the purchase and installation of pumpout facilities at private marinas which agree at a minimum to:
 - allow the general boating public use of the facility for a fee established in consultation with and agreed to by the Department; And
 - 2) provide for the normal operation and maintenance of the pumpout facility and access thereto for a period of at least ten years.
- b. The Department of Environmental Protection shall establish a priority system for the equitable disbursement of funds to applicants.

Proposed New Section 8

8. There is appropriated to the Department of Environmental Protection the sum of \$1,200,000 to effect the provisions of Section 7 of this Act and to provide public information and education as required in Section 3; however, not less than \$1,150,000 shall be dedicated to the purposes of Section 7 of this Act.

Draft Proposed Rules implementing the Marine Sewage Treatment Act of 1988 (P.L. 1988 c.117)

- 1) For the purposes of these Rules the following terms are defined:
 - a. "Department" means the Department of Environmental Protection.
 - b. "Live-aboard Vessel" means any vessel used principally as a residence or as a place of business for at least seven consecutive days and which if used as a means of transportation said transportation is a secondary or subsidiary use.
 - c. "Live-aboard Accommodations" means the extension of potable water, electricity or other utilities permanently or semi-permanently to individual slips.
 - d. "Marina" means any dock, pier, bulkhead, mooring or similar structure or a collection of adjacent structures under singular or related ownership providing permanent or semi-permanent dockage to ten or more vessels.
 - e. "New, expanded or substantially improved" means any marina applying for a Waterfront Development Permit pursuant to N.J.S.A. 12:5-3 after the effective date of these rules for marina construction or expansion by ten or more slips, or for maintenance dredging, dock or bulkhead replacement which will allow an existing marina to continue to function.
 - f. "Portable toilet emptying receptacle" means either a specially designed device or a restroom stall dedicated for the collection of waste contained in portable toilets.
 - g. "Slip-side pumpout facility" means a sewage collection system for removing sewage and wastewater from watercraft which provides continuous or automatic intermittent removal from each individual slip.
 - h. "Pumpout Facility" means a piece of equipment either fixed or portable, designed to remove sewage and waste water from the holding tank of a boat through an orifice in the vessel's hull or deck.
 - i. "Type III marine sanitation device" means a device designed to prevent the overboard discharge of treated or untreated sewage from a permanent toilet fixture on a vessel, certified to a 'no discharge' standard.
- 2) All marinas must post prominent signs indicating no discharge is permitted within the basin.

- 3)a. All new, expanded or substantially improved marinas shall provide a pumpout facility.
- b. All existing marinas having 50 or more slips or mooring spaces shall retroactively provide a pumpout facility within one year of the adoption of these rules.
- c. The Department may grant an exemption from the requirements of Sections 3a. and 3b. if the marina owner can demonstrate that:
 - i) the marina does not have the capacity to provide dockage to a vessel equipped with a Type III marine sanitation device; or
 - ii) the marina owner has a written agreement with another marina, located within a half mile traveling distance, allowing his patrons to use the facilities at the other marina for a reasonable fee; and
 - iii) the marina owner does not allow live-aboard vessels at his marina; and
 - iv) an adequate number of pumpout facilities exist within the service area of the marina, determined to be a minimum of one unit per 200 vessels equipped with a marine sanitation device.
- d. Any marina granted an exemption pursuant to Section 3c. shall clearly notify all patrons of the location, availability and fee charged for the use of the substitute pumpout facility.
- e. All marinas shall provide a portable toilet emptying receptacle unless it is clearly demonstrated that each slip is interrelated with an adjacent residence and strict compliance would cause severe and undue hardship.
- f. All new, expanded or substantially improved marinas shall provide public restrooms according to the following schedule unless it is clearly demonstrated that each slip is interrelated with an adjacent residence:
 - i) up to 100 boats

a) Men: One toilet stall

Women: Two toilet stalls

One urinal

One washbasin

One washbasin

ii) 100-200 boats

a) Men: Two urinals

Women: Two toilet stalls

One toilet stall
Two shower stalls

Two washbasins
Two shower stalls

Two washbasins

- iii) for each additional 100 boats
 - a) Add: One urinal (men)
 One toilet stall (men)
 One toilet stall (women)
 One washbasin (men)
 One washbasin (woman)
 One shower stall
- 4) All restrooms, pumpout facilities and portable toilet emptying receptacles shall dispose of the collected waste in a manner acceptable to the Department as follows:
 - i) discharge to a municipal or regional treatment plant where practicable;
 or
 - ii) discharge to a subsurface sewage disposal system constructed in accordance with N.J.A.C. 7:9-2.1 et seq.; or
 - iii) discharge to a holding tank with waste being removed by a licensed septage hauler. A marina employing this method shall maintain a record of waste removal.
- 5a) Any existing marina allowing live-aboard arrangements shall be required to install a pumpout facility within one year of the adoption of these rules.
- b) Any new, expanded or substantially improved marina providing live-aboard accommodations shall also provide slip-side pumpout facility service to each slip so accommodated.
- 6a) The Department shall make available grants to fund the purchase and installation of pumpout facilities at private marinas not to exceed \$10,000 per facility. In exchange for such a grant a marina operator shall agree to the following conditions:
 - i) the pumpout facility shall be open to the boating public at large;
 - ii) the placement of the pumpout facility shall be approved by the Department;
 - iii) the user fee charged shall be reasonable and shall be approved by the Department;
 - iv) the marina owner shall provide for the normal operation and maintenance at the marina owner's expense for a period of at least 10 years.

- b) The Department in awarding such grants shall give priority consideration to:
 - i) areas where pumpout facilities are in highest demand;
 - ii) marinas with access to municipal or regional sanitary sewage treatment plants;
 - iii) locations of destination or convenience within the service area;
 - iv) areas where previous grants have not been awarded;
 - v) marinas required to provide pumpout facilities under Section 3b.

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